Notice of Allowability	Application No.	Applicant(s)	
	09/993,801	DARABI ET AL.	
	Examiner	Art Unit	
	TUAN A. PHAM	2643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *3-4-2005*.

2. ☒ The allowed claim(s) is/are *11-15,29-32,40 and 41*.

3. ☒ The drawings filed on *11 January 2005* are accepted by the Examiner.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

CURTIS KUNTZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

2. Authorization for this examiner's amendment was given in a telephone interview with Attorney of record Timothy Markison on 06-14-2005.

3. The application has been amended as follows:

Cancel claims 33-38.

(End of Amendment)

REASONS FOR ALLOWANCE

4. Claims 11-15, 29-32, 40, and 41 are allowed over the prior art of record.

5. The following is an examiner's statement of reasons for allowance:

The applicant's Remarks, filed on 03/04/2005, have been carefully reviewed with update search. Consequently, reasons for allowance of claims 11-15, 29-32, 40, and 41 are set forth in according to the applicant's remarks stated on pages 18.

Regarding claim 11, the closest prior art made of record are Peterzell et al. (Pub. No.: US 2002/0132597), Ninomiya et al. (U.S. Patent No.: 5,940,029), and Kerth et al. (Pub. No.: US 2005/0003762). Reference Peterzell teaches an integrated multi-mode

radio receiver comprises a shared front-end operably coupled to receive a radio frequency (RF) signal that is modulated in accordance with one of a plurality of operational modes, wherein the shared front-end converts the RF signal into one of a plurality of intermediate frequency (IF) signals based on a selection signal that is indicative of the one of the plurality of operational modes. Reference Ninomiya teaches the low pass filter operably coupled to low pass filter the and Q components to produce low pass filtered I and Q components; and the band pass filter operably coupled to band pass filter the I and Q components to produce band pass filtered I and Q components. Reference Kerth teaches a radio receiver comprises first multiplexor operably coupled to provide the I and Q components of the one of the plurality of IF signals when the selection signal indicates a first mode of operation and to provide the I and Q components of the one of the plurality of IF signals when the selection signal indicates a second mode of operation.

However, the prior art made of record fails to teach or suggest, in combination, the arrangement of an integrated multi-mode radio receiver comprises a second multiplexor operably coupled to receive the low pass filtered I and Q components and the band pass filtered and Q components, wherein the second multiplexor outputs the low pass filtered I and Q components when the selection signal indicates the first mode of operation and outputs the band pass filtered I and Q components when the selection signal indicates the second mode of operation; and amplifying module operably coupled to amplify the low pass filtered I and Q components or the band pass filtered I and Q components to produce amplified I and Q components, in combination with other

limitations, as specified in the independent claim 11, and further limitations of their respectively dependent claims 12-15.

Regarding claim 29, the closest prior art made of record are Peterzell et al. (Pub. No.: US 2002/0132597), Ninomiya et al. (U.S. Patent No.: 5,940,029), and Kerth et al. (Pub. No.: US 2005/0003762). Reference Peterzell teaches an integrated multi-mode radio receiver comprises a shared front-end operably coupled to receive a radio frequency (RF) signal that is modulated in accordance with one of a plurality of operational modes, wherein the shared front-end converts the RF signal into one of a plurality of intermediate frequency (IF) signals based on a selection signal that is indicative of the one of the plurality of operational modes. Reference Ninomiya teaches the low pass filter operably coupled to low pass filter the and Q components to produce low pass filtered I and Q components; and the band pass filter operably coupled to band pass filter the I and Q components to produce band pass filtered I and Q components. Reference Kerth teaches a radio receiver comprises multiplexor operably coupled to provide the I and Q components of the one of the plurality of IF signals when the selection signal indicates a first mode of operation and to provide the I and Q components of the one of the plurality of IF signals when the selection signal indicates a second mode of operation.

However, the prior art made of record fails to teach or suggest, in combination, the arrangement of an integrated multi-mode radio transmitter comprises: amplifying module operably coupled to amplify I and Q components of an input signal produce amplified I and Q components; first multiplexor operably coupled to provide the

amplified I and Q components to a first low pass filter when a selection signal indicates a first mode of operation and to provide the amplified I and Q components to a second low pass filter when the selection signal indicates a second mode of operation, in combination with other limitations, as specified in the independent claim 29, and further limitations of their respectively dependent claims 30-32.

Regarding claims 40-41, the closest prior art made of record are Peterzell et al. (Pub. No.: US 2002/0132597), Ninomiya et al. (U.S. Patent No.: 5,940,029), and Kerth et al. (Pub. No.: US 2005/0003762). Reference Peterzell teaches an integrated multi-mode radio receiver comprises a shared front-end operably coupled to receive a radio frequency (RF) signal that is modulated in accordance with one of a plurality of operational modes, wherein the shared front-end converts the RF signal into one of a plurality of intermediate frequency (IF) signals based on a selection signal that is indicative of the one of the plurality of operational modes. Reference Ninomiya teaches the low pass filter operably coupled to low pass filter the and Q components to produce low pass filtered I and Q components; and the band pass filter operably coupled to band pass filter the I and Q components to produce band pass filtered I and Q components. Reference Kerth teaches a radio receiver comprises multiplexor operably coupled to provide the I and Q components of the one of the plurality of IF signals when the selection signal indicates a first mode of operation and to provide the I and Q components of the one of the plurality of IF signals when the selection signal indicates a second mode of operation.

However, the prior art made of record fails to teach or suggest, in combination, the arrangement of an integrated multi-mode radio receiver comprises a second multiplexor operably coupled to receive the low pass filtered I and Q components and the band pass filtered and Q components, wherein the second multiplexor outputs the low pass filtered I and Q components when the selection signal indicates the first mode of operation and outputs the band pass filtered I and Q components when the selection signal indicates the second mode of operation; and amplifying module operably coupled to amplify the low pass filtered I and Q components or the band pass filtered I and Q components to produce amplified I and Q components and an integrated multi-mode radio transmitter comprises: amplifying module operably coupled to amplify I and Q components of an input signal produce amplified I and Q components; first multiplexor operably coupled to provide the amplified I and Q components to a first low pass filter when a selection signal indicates a first mode of operation and to provide the amplified I and Q components to a second low pass filter when the selection signal indicates a second mode of operation, in combination with other limitations, as specified in the independent claims 40-41.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Tuan A. Pham** whose telephone number is (571) 272-8097. The examiner can normally be reached on Monday through Friday, 8:00 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Curtis Kuntz can be reached on (571) 272-7499 and

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have question on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CURTIS KUNTZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

Art Unit 2643
June 14, 2005
Examiner

Tuan Pham